DISTRIBUTION PRICING DIRECTIVE

D P D: Rider 6, No. 5

Customer Requests that Require ComEd to Reserve Distribution System Capacity

Issued: April 7, 2003

Supersedes: Rate Department Directive: Rider 6, No. 5, dated February 28, 1997

References: Rider 6 - Optional or Non-standard Service
Letter of Marty Fruehe dated June 30, 2000
Rate Memorandum Rider 6, Section VI dated September 26, 1967

Overview: This directive restates ComEd's policy related to customer requests that require ComEd to reserve distribution system capacity for the sole benefit of the customer making the request. Additionally, this directive describes ComEd's methodology for determining charges for such requests. Furthermore, this revision clarifies ComEd's practices regarding supplying service from ComEd's existing low voltage network systems and from separate substations. Finally, in response to customers' desire for more flexible payment options, the directive has been revised to include a monthly payment option.

Approved: /s/ D. F. Geraghty
Manager, Rate and Contract Administration
Distribution Pricing Department

/s/ L. S. Alongi
Director, Distribution Pricing

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DISTRIBUTION PRICING DIRECTIVE

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Customer Requests that Require ComEd to Reserve Distribution System Capacity

Policy

When a customer requests service to a particular premises or development in a manner that requires ComEd to reserve distribution system capacity solely for that premises or development (such as requests for ComEd to automatically transfer the load of the customer's development to an alternate ComEd supply when the normal ComEd supply is not available or requests that require ComEd to reserve distribution system capacity for a customer's standby requirements), ComEd will charge the customer making the request for providing such reserved distribution system capacity using the methodology described in this directive.

Methodology to Determine the Reserved Distribution System Capacity Charge (RDSCC)

ComEd will determine the Reserved Distribution System Capacity Charge by calculating the estimated difference in cost between the customer's prorated portion of (1) the standard distribution supply system with sufficient capacity to economically serve the Maximum Demand of the customer's development and (2) the required distribution supply system with sufficient capacity to satisfy the customer's request subject to the following:

(a) the **Maximum Demand** of the customer's development is defined by the applicable rate or rates,

(b) the standard distribution supply system consists of two parts:

(1) the standard mainline community distribution supply system extending from ComEd's closest Transmission Distribution Center (TDC) or Transmission Substation (TSS) (with adequate capacity) to the interconnection point or points on that mainline community distribution supply system where the customer's load is, will be, or could be connected, and

(2) the standard customer tap or taps extending (without taps to other customers) from the interconnection point or points on the standard mainline community distribution supply system to the customer's property;

(c) the required distribution supply system consists of two parts:

(1) the required mainline community distribution supply system extending from ComEd's TDC or TSS (with adequate capacity) to the interconnection point or points on that mainline community distribution supply system where the customer's load is or will be connected, and

(2) the required customer tap or taps extending (without taps to other customers) from the interconnection point or points on the required mainline distribution supply system to the customer's property;

(d) the customer's prorated portion of (b1), which is designated in this directive as the **Standard Mainline System Cost Allocation**, is determined by adding together the respective mainline cost allocations of each standard circuit; where the mainline cost allocation of each standard circuit is determined by multiplying the cost of the mainline portion of each standard circuit by the respective ratio of the customer's Maximum Demand that is (or would be) normally served by that circuit to the normal capability of that circuit;

(e) **except as noted in (i) below**, the customer's prorated portion of (c1), which is designated in this directive as the **Required Mainline System Cost Allocation**, is determined by adding together the respective mainline cost allocations of each required circuit; where the mainline cost allocation of each required circuit is determined by multiplying the cost of the mainline portion of each required circuit by the sum of the respective ratios of:

(1) the customer's Maximum Demand normally served by that circuit to the normal capability of that circuit, and

(2) the customer's highest 30-minute demand that requires reserved distribution system capacity on that circuit to the emergency capability of that circuit;

(f) the customer's prorated portion of (b2), which is designated in this directive as the **Standard Customer Tap Cost Allocation**, is determined by adding together 100% of the customer tap costs of each respective standard circuit;

(g) the customer's prorated portion of (c2), which is designated in this directive as the **Required Customer Tap Cost Allocation**, is determined by adding together 100% of the customer tap costs of each respective required circuit;

(h) typical distribution line construction used in the vicinity of the substations involved and the location where service is requested shall be used to develop the costs for the standard and required distribution supply systems described above; duct occupancy shall be included in the determination of mainline distribution costs when cable in conduit is involved; the associated circuit breaker at the TDC or TSS and any other associated equipment (circuit breakers, reclosers, transformers etc.) located at Substations (SS) or Distribution Centers (DC) that are a part of the standard and required distribution supply systems described above, shall be included in the determination of mainline distribution costs.

(i) when determining the Required Mainline System Cost Allocation, if the customer's load is served by two or more normal supply circuits that share a common emergency supply circuit for automatic load transfer, then, unless specifically directed to do otherwise by the customer, the mainline cost allocation of the shared emergency circuit shall be determined by evaluating the single contingency outage of each associated normal supply circuit and selecting the contingency that results in the highest Reserved Distribution System Capacity Charge - that is, unless the customer requests reserved distribution system capacity for simultaneous multiple contingencies of the associated normal supply circuits, then the system shall be designed and charges calculated only for the "worst case" single contingency outage of the normal supply circuits associated with the common emergency circuit (See Example 3).

Additional Criteria and Considerations

The following criteria and considerations will also apply when determining a Reserved Distribution System Capacity Charge:

(a) the Reserved Distribution System Capacity Charge shall be collected and accounted for under one of the two following options:

(1) as a nonrefundable prepaid rental – which is determined by multiplying the estimated difference in cost between the standard distribution supply system and the required distribution supply system as determined above by the Present Value of Carrying Charges, PVCC factor for distribution facilities; or

(2) as a nonrefundable monthly rental – which is determined by multiplying the estimated difference in cost between the standard distribution supply system and the required distribution supply system as determined above by the Monthly Levelized Premium of Carrying Charges, MLPCC factor for distribution facilities;

no subsequent adjustments will be made to the amount collected unless the amount of reserved distribution system capacity must subsequently be increased as a result of a change in the customer's requirements;

(b) all cost calculations are based on the composite rates for estimating normal construction work that are contained in General Company Order No. 25 ("GCO 25"), Appendix G;

(c) service from ComEd's existing low voltage network systems, such as that in downtown Chicago, will not be subject to a Reserved Distribution System Capacity Charge;

(d) ComEd will not guarantee nor offer service from separate substations under any circumstances; if service from separate substation sources is provided because it is the most economical plan, when such service is first established, ComEd will notify the customer that such service will not be guaranteed;

(e) in cases where a customer relocates load from one point of service to another on the same customer account and (1) that load previously required distribution system capacity be reserved, and (2) such relocated load requires the same level of distribution system capacity continue to be reserved, then no additional Reserved Distribution System Capacity Charge shall apply to such customer account for such relocated load;

(f) when providing service to a customer involves both an optional line extension charge (per Rate Memorandum Rider 6 Section VI (c)) and a Reserved Distribution System Capacity Charge, the sum of the portion of the costs associated with these two charges for any line section common to the calculation of both charges shall not exceed 100% of the installed cost (labor and material at GCO 25 Appendix G costs) of such line extension;

also, for the case in which a line section or sections must be installed by ComEd as an optional line extension in order to provide the distribution system capacity reservation required by the customer's request and for which the customer will pay a nonrefundable optional line extension charge for such extension, a credit for such nonrefundable optional line extension payment shall be included in the calculation of the Reserved Distribution System Capacity Charge up to the portion of the Reserved Distribution System Capacity Charge for such common line section (See Example 6).

Background

ComEd's standard service from its primary distribution system consists of providing adequate normal circuit capacity to serve a customer's Maximum Demand in the most economical and practical manner feasible, including sufficient interconnections to other circuits to manually restore service in the event of an interruption to the normal supply. When a customer requests that ComEd automatically transfer its load to an alternate supply in the event the normal supply is unexpectedly interrupted, ComEd must reserve such automatic load transfer capacity on the alternate circuit to ensure the automatic transfer of load will not result in overloading the alternate circuit. The methodology detailed above properly, fairly, and consistently allocates the cost of reserving such distribution system capacity to the customer requiring such nonstandard service.

ComEd does not offer service from separate substations if other more economical and practical plans of service are available because system operations require ComEd to maintain flexibility in its ability to perform switching for emergency situations as well as to perform routine system maintenance. In addition, for those instances in which service from separate substations is the most economical and practical plan of service at the time service is requested or at any time thereafter, ComEd does not guarantee that such service will be maintained because it is not feasible to determine with certainty the long-term system requirements and the associated costs that would be required to maintain such service due to numerous unpredictable variables that may affect such requirements. Also, since the advent of open access, Independent Power Producers (IPPs) have begun operating in ComEd's service territory. These IPPs often request standby service that requires reserved distribution system capacity. (See Example 5).

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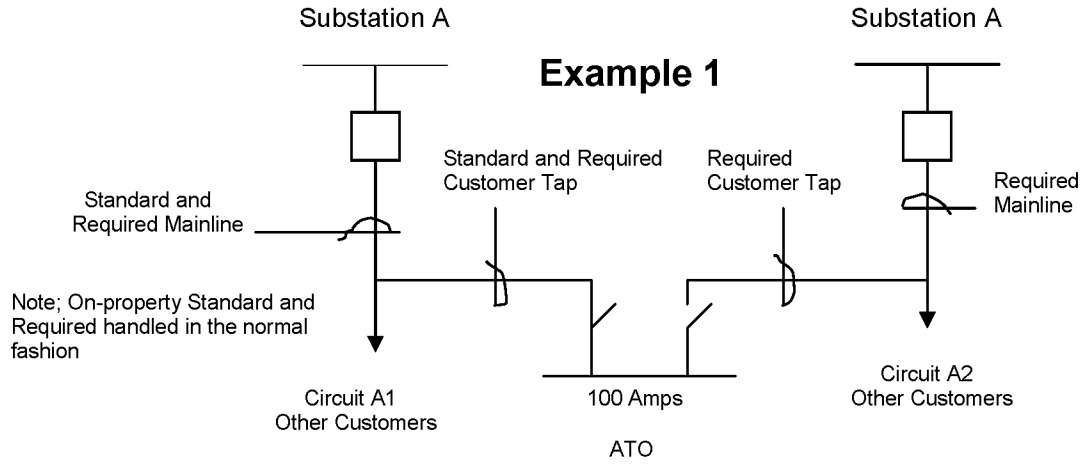
Customer Requests that Require ComEd to Reserve Distribution System Capacity

Example 1

A customer in an overhead area requests ATO service. Based on the customer's Maximum Demand (50 amps), the customer will be served by one circuit (Circuit-A1) from Substation-A as standard. To satisfy the customer's request, the use of an ATO and a second circuit (Circuit-A2) from Substation-A is required, in addition to Circuit-A1. The ATO will consist of one normally closed line bay connected to Circuit-A1 and one normally open line bay connected to Circuit-A2, as illustrated below. In addition, the customer's 30-minute demand Off-Peak is twice its On-Peak Maximum Demand.



The necessary information is as follows:

N_{A1} = Normal Allowable Rating of Circuit-A1 ..... 365 Amps
N_{A2} = Normal Allowable Rating of Circuit-A2 ..... 365 Amps
E_{A1} = Emergency Allowable Rating of Circuit-A1 ..... 470 Amps
E_{A2} = Emergency Allowable Rating of Circuit-A2 ..... 470 Amps
M_{A1} = Customer's Maximum Demand normally served by Circuit-A1 ..... 50 Amps
M_{A2} = Customer's Maximum Demand normally served by Circuit-A2 ..... 0 Amps
A_{A1} = 30-minute demand automatically transferred to Circuit-A1 (from Circuit-A2) ..... 0 Amps
A_{A2} = 30-minute demand automatically transferred to Circuit-A2 (from Circuit-A1) ..... 100 Amps
$M\$_{A1}$ = Cost of Circuit-A1 Mainline $90,000
$M\$_{A2}$ = Cost of Circuit-A2 Mainline $110,000
$T\$_{A1}$ = Cost of Circuit-A1 Customer Tap $5,000
$T\$_{A2}$ = Cost of Circuit-A2 Customer Tap $15,000
PVCC = Present Value of Carrying Charge Factor **(see note)** 1.32817
MLPCC = Monthly Level Premium Carrying Charge Factor **(see note)** 0.00958

Note: All costs determined using unit costs for typical line construction used in the vicinity of the substations involved and the location where service is requested. Installed cost of circuit breakers / reclosers at the substations for the circuits involved is included. **Contact Financial Planning and Analysis for current PVCC and MLPCC factors.**

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Reserved Distribution System Capacity Charge Calculation
Calculation of the Reserved Distribution System Capacity Charge consists of calculating the Standard System Cost Allocation and the Required System Cost Allocation and then subtracting the Standard System Cost Allocation from the Required System Cost Allocation. The result is then multiplied by either (1) the currently-effective PVCC (to determine the applicable nonrefundable prepaid rental) or (2) the currently-effective MLPCC (to determine the applicable monthly rental). The calculation for this example is described below.

Standard System Cost Allocation
The customer's prorated portion of the standard distribution supply system consists of the customer's prorated portion of the Standard Mainline System plus 100% of the Standard Customer Tap, where, in this case Circuit-A1 is standard:

The Standard Mainline System Cost Allocation
= [Standard Mainline Cost Allocation of Circuit-A1] = [(M_{A1}/N_{A1}) * $M\$_{A1}$] = [(50/365) * ($90,000)]
= $12,329

Standard Customer Tap Cost Allocation
= 100% * [Customer Tap Cost of Circuit-A1] = 100% * $T\$_{A1}$ = 100% * ($5,000) = $5,000

Accordingly, the Standard System Cost Allocation = Standard Mainline System Cost Allocation
+ Standard Customer Tap Cost Allocation = $12,329 + $5,000 = $17,329

Required System Cost Allocation
The customer's prorated portion of the required distribution supply system consists of the customer's prorated portion of the Required Mainline System plus 100% of the Required Customer Tap, where, in this case Circuit-A1 and Circuit-A2 are required:

The Required Mainline System Cost Allocation
= [Required Mainline Cost Allocation of Circuit-A1] + [Required Mainline Cost Allocation of Circuit-A2]
= [$\{(M_{A1}/N_{A1}) + (A_{A1}/E_{A1})\}$ * $M\$_{A1}$]+ [$\{(M_{A2}/N_{A2}) + (A_{A2}/E_{A2})\}$ * $M\$_{A2}$] = [{(50/365)
+ (0/470)} * ($90,000)] + [{(0/365) + (100/470)}* ($110,000)] = $12,329 + $23,404 = $35,733

The Required Customer Tap Cost Allocation = 100% * [Customer Tap Cost of Circuit-A1
+ Customer Tap Cost of Circuit-A2] = 100% * [$T\$_{A1}$ + $T\$_{A2}$] = 100% * [$5,000 + $15,000] = $20,000

Accordingly, the Required System Cost Allocation = Required Mainline System Cost Allocation
+ Required Customer Tap Cost Allocation = $35,733 + $20,000 = $55,733

Reserved Distribution System Capacity Charge
The Reserved Distribution System Capacity Charge is the difference in cost between the customer's Required System Cost Allocation and the Standard System Cost Allocation (multiplied by either (1) the currently-effective PVCC for nonrefundable prepaid rental or (2) the currently-effective MLPCC for monthly rental).

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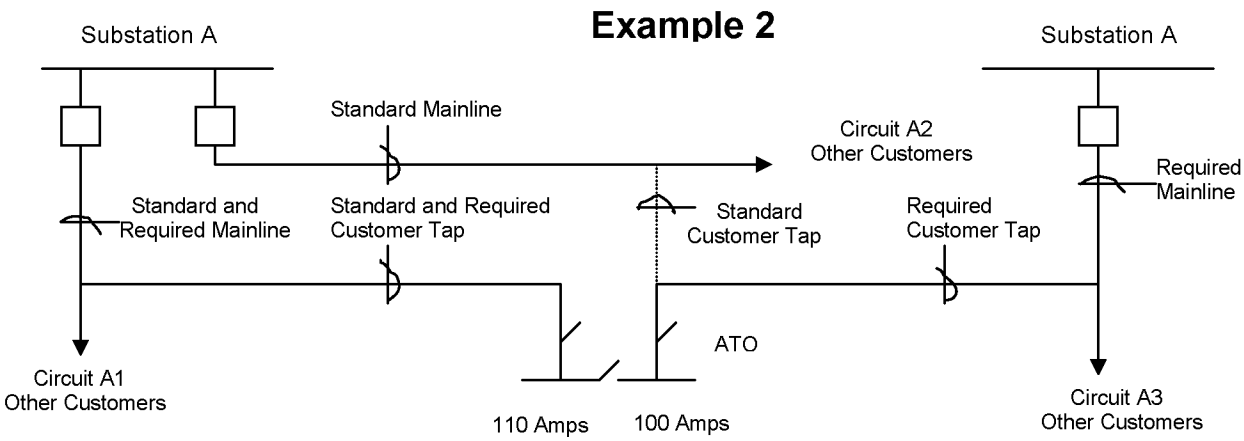
Consequently,
the Reserved Distribution System Capacity Charge = (Required System Cost Allocation
- Standard System Cost Allocation) × PVCC (nonrefundable prepaid rental) or x MLPCC (for monthly rental):

$55,733 - $17,329 = $38,404
$38,404 * 1.32817 = **$ 51,007 (nonrefundable prepaid rental)**
or $38,404 * 0.00958 = **$368 (monthly rental)**

Example 2

A customer in an underground area requests ATO service. Based on the customer's Maximum Demand, the customer's standard distribution supply system consists of two circuits from Substation-A (Circuits-A1 & A2) to manual switch gear with two normally closed line bays and one normally open bus tie bay. To satisfy the customer's request, the use of an ATO and a different circuit from Substation-A (Circuit-A3) is required, in place of the manual switchgear and Circuit-A2. The ATO will consist of one normally closed line bay connected to Circuit-A1, one normally closed line bay connected to Circuit-A3, and one normally open bus tie bay between Circuit-A1 and Circuit-A3, as illustrated below.



Note; On-property Standard and Required handled in the normal fashion

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The necessary information is as follows:

N_{A1} = Normal Allowable Rating of Circuit-A1 ..... 365 Amps
N_{A2} = Normal Allowable Rating of Circuit-A2 ..... 365 Amps
N_{A3} = Normal Allowable Rating of Circuit-A3 ..... 365 Amps
E_{A1} = Emergency Allowable Rating of Circuit-A1 ..... 470 Amps
E_{A2} = Emergency Allowable Rating of Circuit-A2 ..... 470 Amps
E_{A3} = Emergency Allowable Rating of Circuit-A3 ..... 470 Amps
M_{A1} = Customer's Maximum Demand normally served by Circuit-A1 as standard and required ..... 110 Amps
M_{A2} = Customer's Maximum Demand that would normally have been served by Circuit-A2 as standard ..... 100 Amps
M_{A3} = Customer's Maximum Demand normally served by Circuit-A3 as required ..... 100 Amps
A_{A1} = 30-minute demand automatically transferred to Circuit-A1 (from Circuit-A3) ..... 100 Amps
A_{A3} = 30-minute demand automatically transferred to Circuit-A3 (from Circuit-A1) ..... 110 Amps
$M\$_{A1}$ = Cost of Circuit-A1 Mainline $150,000
$M\$_{A2}$ = Cost of Circuit-A2 Mainline $170,000
$M\$_{A3}$ = Cost of Circuit-A3 Mainline $200,000
$T\$_{A1}$ = Cost of Circuit-A1 Customer Tap $40,000
$T\$_{A2}$ = Cost of Circuit-A2 Customer Tap $40,000
$T\$_{A3}$ = Cost of Circuit-A3 Customer Tap $90,000
PVCC = Present Value of Carrying Charge Factor **(see note)** 1.32817
MLPCC = Monthly Level Premium Carrying Charge Factor **(see note)** 0.00958

Note: All costs determined using unit costs for typical line construction used in the vicinity of the substations involved and the location where service is requested. Installed cost of circuit breakers / reclosers at the substations for the circuits involved is included. Contact Financial Planning and Analysis for current PVCC and MLPCC factors.

Reserved Distribution System Capacity Charge Calculation
Calculation of the Reserved Distribution System Capacity Charge consists of calculating a Standard System Cost Allocation and a Required System Cost Allocation and then subtracting the Standard System Cost Allocation from the Required System Cost Allocation. The result is then multiplied by either (1) the currently effective PVCC (to determine the applicable nonrefundable prepaid rental) or (2) the currently effective MLPCC (to determine the applicable monthly rental). The calculation for this example is described below.

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Standard System Cost Allocation

The customer's prorated portion of the standard distribution supply system consists of the customer's prorated portion of the Standard Mainline System plus 100% of the Standard Customer Tap, where, in this case Circuit-A1 and Circuit-A2 are standard:

The Standard Mainline System Cost Allocation = [Standard Mainline Cost Allocation of Circuit-A1]
+ [Standard Mainline Cost Allocation of Circuit-A2] = [$(\mathbf{M_{A1}/N_{A1}}) * \mathbf{M\$_{A1}}$] + [$(\mathbf{M_{A2}/N_{A2}}) * \mathbf{M\$_{A2}}$]
= [(110/365) * ($150,000)] + [(100/365) * ($170,000)] = $45,205 + $46,575 = $91,780

Standard Customer Tap Cost Allocation = 100% * [Customer Tap Cost of Circuit-A1
+ Customer Tap Cost of Circuit-A2] = 100% * [$\mathbf{T\$_{A1}} + \mathbf{T\$_{A2}}$] =100% * [$40,000 + $40,000] = $80,000

Accordingly, the Standard System Cost Allocation = Standard Mainline System Cost Allocation
+ Standard Customer Tap Cost Allocation = $91,780 + $80,000 = $171,780

Required System Cost Allocation

The customer's prorated portion of the required distribution supply system consists of the customer's prorated portion of the Required Mainline System plus 100% of the Required Customer Tap, where, in this case Circuit-A1 and Circuit-A3 are required:

The Required Mainline System Cost Allocation = [Required Mainline Cost Allocation of Circuit-A1]
+ Required Mainline Cost Allocation of Circuit-A3] = [{$(\mathbf{M_{A1}/N_{A1}}) + (\mathbf{A_{A1}/E_{A1}})$} * $\mathbf{M\$_{A1}}$] + [{$(\mathbf{M_{A3}/N_{A3}})$
+ $(\mathbf{A_{A3}/E_{A3}})$} * $\mathbf{M\$_{A3}}$] = [{(110/365)+ (100/470)} * ($150,000)] + [{(100/365) + (110/470)}* ($200,000)]
= $77,120 + $101,603 = $178,723

The Required Customer Tap Cost Allocation = 100% * [Customer Tap Cost of Circuit-A1
+ Customer Tap Cost of Circuit-A3] = 100% * [$\mathbf{T\$_{A1}} + \mathbf{T\$_{A3}}$] = 100% * [$40,000 + $90,000] = $130,000

Accordingly,
the Required System Cost Allocation = Required Mainline System Cost Allocation
+ Required Customer Tap Cost Allocation = $178,723 + $130,000 = $308,723

Reserved Distribution System Capacity Charge

The Reserved Distribution System Capacity Charge is the difference in cost between the customer's Required System Cost Allocation and the Standard System Cost Allocation (multiplied by either (1) the currently-effective PVCC for nonrefundable prepaid rental or (2) the currently-effective MLPCC for monthly rental).

Consequently,
the Reserved Distribution System Capacity Charge = (Required System Cost Allocation
- Standard System Cost Allocation) × PVCC (nonrefundable prepaid rental) or x MLPCC (for monthly rental):

$308,723 - $171,780 = $136,943
$136,943 * 1.32817 = **$181,884 (nonrefundable prepaid rental)**
or $136,943 * 0.00958 **= $1,312 (monthly rental)**

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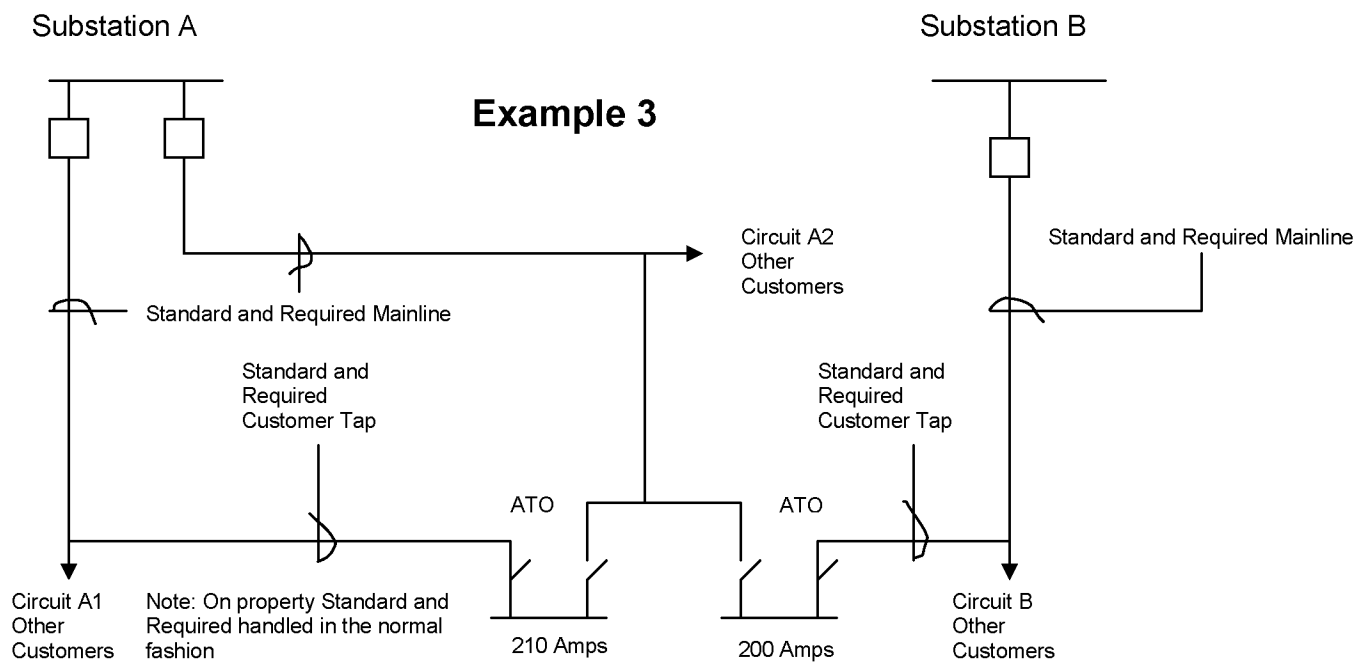
Example 3

A developer of a proposed multiple occupancy high rise building requests ATO service. Based on the expected Maximum Demand of the proposed high rise building and the circuits available for use in the area, the building's standard distribution supply system consists of two circuits from Substation-A (Circuits-A1 & A2), one circuit from Substation-B (Circuit-B), and a manual switch gear arrangement with which the building's load would be split on two busses. One bus would carry 210 amps of load normally supplied by Circuit-A1 through a normally closed manual line bay with an alternate supply from Circuit-A2 through a normally open manual line bay. Similarly, the second bus would carry 200 amps of load normally supplied by Circuit-B through a normally closed manual line bay with an alternate supply from Circuit-A2 through a normally open manual line bay. To satisfy the customer's request, the use of an ATO switchgear arrangement is required, in place of the manual switchgear, as illustrated below. The ATO arrangement will consist of essentially two ATOs. One ATO consists of one normally closed line bay connected to Circuit-A1 and one normally open line bay connected to Circuit-A2. The second ATO consists of one normally closed line bay connected to Circuit-B and one normally open line bay connected to Circuit-A2.



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The necessary information is as follows:

N_{A1} = Normal Allowable Rating of Circuit-A1 ..... 365 Amps
N_{A2} = Normal Allowable Rating of Circuit-A2 ..... 365 Amps
N_{B} = Normal Allowable Rating of Circuit-B ..... 365 Amps
E_{A1} = Emergency Allowable Rating of Circuit-A1 ..... 470 Amps
E_{A2} = Emergency Allowable Rating of Circuit-A2 ..... 470 Amps
E_{B} = Emergency Allowable Rating of Circuit-B ..... 470 Amps
M_{A1} = Customer's Maximum Demand normally served by Circuit-A1 ..... 210 Amps
M_{A2} = Customer's Maximum Demand normally served by Circuit-A2 ..... 0 Amps
M_{B} = Customer's Maximum Demand normally served by Circuit-B ..... 200 Amps
A_{A1} = 30-minute demand automatically transferred to Circuit-A1 ..... 0 Amps
$A_{A2\text{-}A1}$ = 30-minute demand automatically transferred to Circuit-A2 (from Circuit-A1) ..... 210 Amps
$A_{A2\text{-}B}$ = 30-minute demand automatically transferred to Circuit-A2 (from Circuit-B) ..... 200 Amps
A_{A2} = Higher of $A_{A2\text{-}A1}$ and $A_{A2\text{-}B}$ ..... 210 Amps
A_{B} = 30-minute demand automatically transferred to Circuit-B ..... 0 Amps
$M\$_{A1}$ = Cost of Circuit-A1 Mainline $150,000
$M\$_{A2}$ = Cost of Circuit-A2 Mainline $200,000
$M\$_{B}$ = Cost of Circuit-B Mainline $170,000
$T\$_{A1}$ = Cost of Circuit-A1 Customer Tap $20,000
$T\$_{A2}$ = Cost of Circuit-A2 Customer Tap $10,000
$T\$_{B}$ = Cost of Circuit-B Customer Tap $16,000
PVCC = Present Value of Carrying Charge Factor (see note) 1.32817
MLPCC = Monthly Level Premium Carrying Charge Factor (see note) 0.00958

Note: All costs determined using unit costs for typical line construction used in the vicinity of the substations involved and the location where service is requested. Installed cost of circuit breakers / reclosers at the substations for the circuits involved is included. Contact Financial Planning and Analysis for current PVCC and MLPCC factors.

Reserved Distribution System Capacity Charge Calculation
Calculation of the Reserved Distribution System Capacity Charge consists of calculating the Standard System Cost Allocation and the Required System Cost Allocation and then subtracting the Standard System Cost Allocation from the Required System Cost Allocation. The result is then multiplied by either (1) the currently-effective PVCC (to determine the applicable nonrefundable prepaid rental) or (2) the currently-effective MLPCC (to determine the applicable monthly rental). The calculation for this example is described below. ***Note that service from separate substations is provided only when it is most economical to do so. Separate station sources are never guaranteed and line configuration may change at any time resulting in feeds originating from a single substation.***

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Standard System Cost Allocation

The customer's prorated portion of the standard distribution supply system consists of the customer's prorated portion of the Standard Mainline System plus 100% of the Standard Customer Tap, where, in this case Circuit-A1, Circuit-A2, and Circuit-B are standard:

The Standard Mainline System Cost Allocation = [Standard Mainline Cost Allocation of Circuit-A1]
+ [Standard Mainline Cost Allocation of Circuit-A2] + [Standard Mainline Cost Allocation of Circuit-B]
= [(M_{A1}/N_{A1}) * $M\$_{A1}$] + [$(M_{A2}/N_{A2})$ * $M\$_{A2}$] + [$(M_B/N_B)$ * $M\$_B$] = [(210/365) * ($150,000)]
+ [(0/365) * ($200,000)] + [(200/365) * ($170,000)] = $86,301 + $0 + $93,151 = $179,452

Standard Customer Tap Cost Allocation
= 100% * [Sum of Customer Tap Costs for Circuit-A1, Circuit-A2, and Circuit-B]
= 100% * [$T\$_{A1}$ + $T\$_{A2}$ + $T\$_B$] = 100% * [$20,000 + $10,000 + $16,000] = $46,000

Accordingly,
the Standard System Cost Allocation = Standard Mainline System Cost Allocation
+ Standard Customer Tap Cost Allocation = $179,452 + $46,000 = $225,452

Required System Cost Allocation

The customer's prorated portion of the required distribution supply system consists of the customer's prorated portion of the Required Mainline System plus 100% of the Required Customer Tap, where, in this case Circuit-A1, Circuit-A2, and Circuit-B are required:

The Required Mainline System Cost Allocation = [Required Mainline Cost Allocation of Circuit-A1]
+ [Required Mainline Cost Allocation of Circuit-A2] + [Required Mainline Cost Allocation of Circuit-B]
= [{(M_{A1}/N_{A1}) + (A_{A1}/E_{A1})} * $M\$_{A1}$] + [{$(M_{A2}/N_{A2})$ + (A_{A2}/E_{A2})} * $M\$_{A2}$]
+ [{(M_B/N_B) + (A_B/E_B)} * $M\$_B$] = [{(210/365)+ (0/470)} * ($150,000)] + [{(0/365)
+ (210/470)}* ($200,000)] + [{(200/365) + (0/470)}* ($170,000)] = $86,301 + $89,362 + $93,151
= $268,814

The Required Customer Tap Cost Allocation
= 100% * [Sum of Customer Tap Costs for Circuit-A1, Circuit-A2, and Circuit-B]
= 100% * [$T\$_{A1}$ + $T\$_{A2}$ + $T\$_B$]
= 100% * [$20,000 + $10,000 + $16,000] = $46,000

Accordingly,
the Required System Cost Allocation = Required Mainline System Cost Allocation
+ Required Customer Tap Cost Allocation = $268,814 + $46,000 = $314,814

Reserved Distribution System Capacity Charge

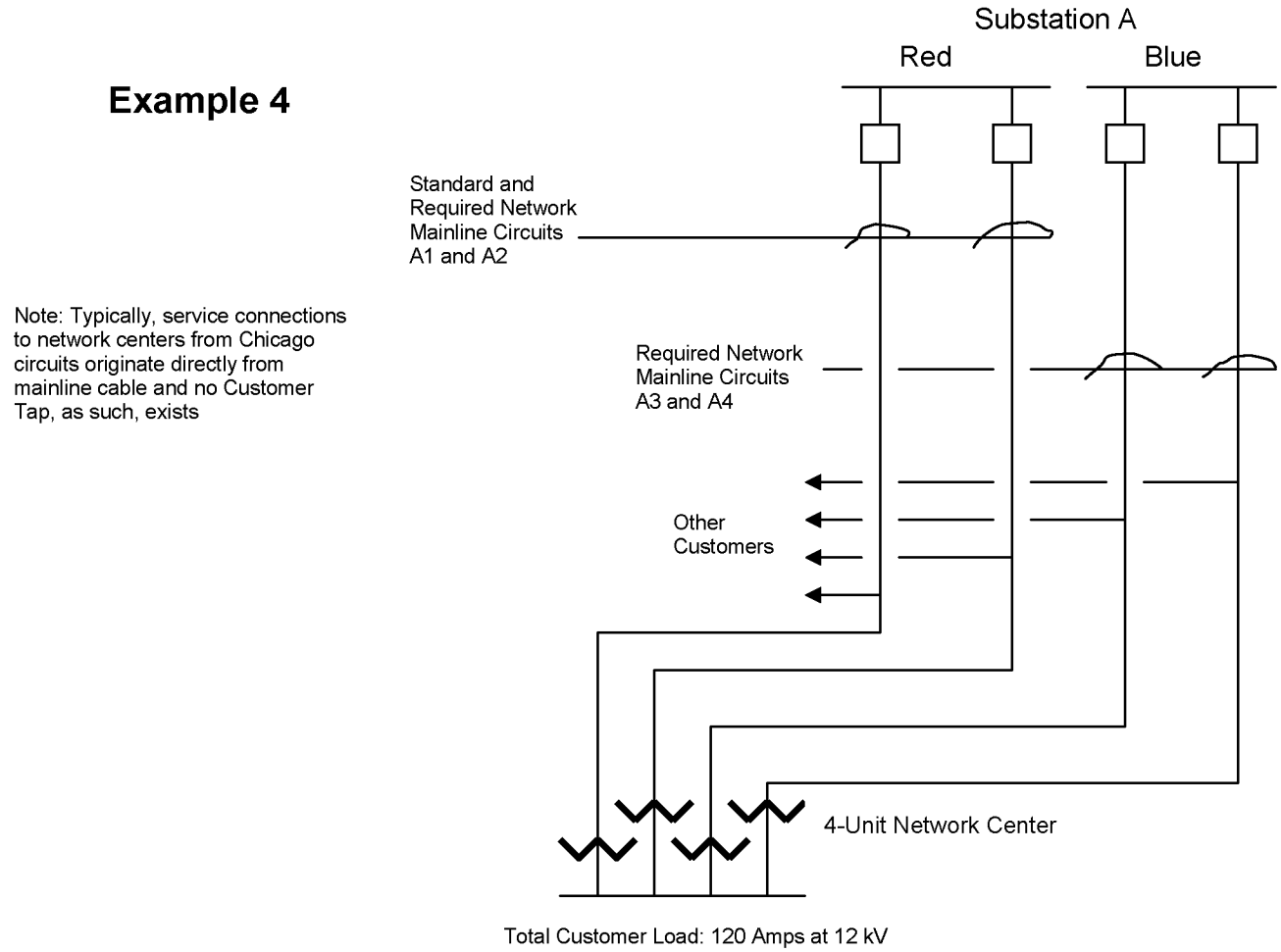
The Reserved Distribution System Capacity Charge is the difference in cost between the customer's Required System Cost Allocation and the Standard System Cost Allocation (multiplied by either (1) the currently-effective PVCC for nonrefundable prepaid rental or (2) the currently-effective MLPCC for monthly rental).

Consequently,
the Reserved Distribution System Capacity Charge = (Required System Cost Allocation - Standard System Cost Allocation) × PVCC (nonrefundable prepaid rental) or x MLPCC (for monthly rental):

$314,814 - $225,452 = 89,362
$89,362 * 1.32817 = **$118,688 (nonrefundable prepaid rental)**
or $89,362 * 0.00958 = **$856 (monthly rental)**

Example 4

A customer in the downtown area of Chicago requests service from a new spot network center. Based on the expected Maximum Demand of the proposed building and the circuits available for use in the area, the building's standard distribution supply system consists of two circuits from Substation-A (Circuits-A1 & A2), to two normally closed manual line bays and a normally open bus tie bay. The proposed building load will peak in the winter at 120 amps while the peak load in the summer will be100 amps. The load would be equally split on the two circuits with 60 amps on both Circuits A1 and A2. The required distribution supply system consists of four circuits serving a four-unit spot network center with each circuit normally carrying 30 amps.



DISTRIBUTION PRICING DIRECTIVE

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Customer Requests that Require ComEd to Reserve Distribution System Capacity

The necessary information is as follows:

N_{A1} = Normal Allowable Winter Rating of Circuit-A1 ..... 365 Amps
N_{A2} = Normal Allowable Winter Rating of Circuit-A2 ..... 365 Amps
N_{A3} = Normal Allowable Winter Rating of Circuit-A3 ..... 365 Amps
N_{A4} = Normal Allowable Winter Rating of Circuit-A4 ..... 365 Amps
E_{A1} = Emergency Allowable Winter Rating of Circuit-A1 ..... 500 Amps
E_{A2} = Emergency Allowable Winter Rating of Circuit-A2 ..... 500 Amps
E_{A3} = Emergency Allowable Winter Rating of Circuit-A3 ..... 500 Amps
E_{A4} = Emergency Allowable Winter Rating of Circuit-A4 ..... 500 Amps
M_{A1} = Customer's Maximum Demand normally served by Circuit-A1 ..... 30 Amps
M_{A2} = Customer's Maximum Demand normally served by Circuit-A2 ..... 30 Amps
M_{A3} = Customer's Maximum Demand normally served by Circuit-A3 ..... 30Amps
M_{A4} = Customer's Maximum Demand normally served by Circuit-A4 ..... 30 Amps
A_{A1} = 30-minute demand automatically transferred to Circuit-A1 ..... 10 Amps
A_{A2} = 30-minute demand automatically transferred to Circuit-A2 ..... 10 Amps
A_{A3} = 30-minute demand automatically transferred to Circuit-A3 ..... 10 Amps
A_{A4} = 30-minute demand automatically transferred to Circuit-A4 ..... 10 Amps
$M\$_{A1}$ = Cost of Circuit-A1 Mainline $250,000
$M\$_{A2}$ = Cost of Circuit-A2 Mainline $250,000
$M\$_{A3}$ = Cost of Circuit-A3 Mainline $250,000
$M\$_{A4}$ = Cost of Circuit-A4 Mainline $250,000
$T\$_{A1}$ = Cost of Circuit-A1 Customer Tap $0
$T\$_{A2}$ = Cost of Circuit-A2 Customer Tap $0
$T\$_{A3}$ = Cost of Circuit-A3 Customer Tap $0
$T\$_{A4}$ = Cost of Circuit-A4 Customer Tap $0
PVCC = Present Value of Carrying Charge Factor (see note) 1.32817
MLPCC = Monthly Level Premium Carrying Charge Factor (see note) 0.00958

Note: All costs determined using unit costs for typical line construction used in the vicinity of the substations involved and the location where service is requested. Installed cost of circuit breakers / reclosers at the substations for the circuits involved is included. Contact Financial Planning and Analysis for current PVCC and MLPCC factors.

In this example, the feeders are winter peaking feeders.

Reserved Distribution System Capacity Charge Calculation

Calculation of the Reserved Distribution System Capacity Charge consists of calculating the Standard System Cost Allocation and the Required System Cost Allocation and then subtracting the Standard System Cost Allocation from the Required System Cost Allocation. The result is then multiplied by either (1) the currently-effective PVCC (to determine the applicable nonrefundable prepaid rental) or (2) the currently-effective MLPCC (to determine the applicable monthly rental). The calculation for this example is described below.

Standard System Cost Allocation

The customer's prorated portion of the standard distribution supply system consists of the customer's prorated portion of the Standard Mainline System plus 100% of the Standard Customer Tap, where, in this case Circuit-A1, Circuit-A2, are standard:

The Standard Mainline System Cost Allocation = [Standard Mainline Cost Allocation of Circuit-A1]
+ [Standard Mainline Cost Allocation of Circuit-A2]
= $[(M_{A1}/N_{A1}) * M\$_{A1}] + [(M_{A2}/N_{A2}) * M\$_{A2}]$ = [(60/365) * ($250,000)]
+ [(60/365) * ($250,000)] = $41,096 + $41,096 = $82,192

Standard Customer Tap Cost Allocation
= 100% * [Sum of Customer Tap Costs for Circuit-A1 and Circuit-A2]
= 100% * $[T\$_{A1} + T\$_{A2}]$ = 100% * [$0 + $0] = $0

Accordingly,
the Standard System Cost Allocation = Standard Mainline System Cost Allocation
+ Standard Customer Tap Cost Allocation = $82,192 + $0 = $82,192

Required System Cost Allocation

The customer's prorated portion of the required distribution supply system consists of the customer's prorated portion of the Required Mainline System plus 100% of the Required Customer Tap, where, in this case Circuits-A1, A2, A3 and A4 are required:

The Required Mainline System Cost Allocation
= [Required Mainline Cost Allocation of Circuit-A1]+ [Required Mainline Cost Allocation of Circuit-A2]
+ [Required Mainline Cost Allocation of Circuit-A3] + [Required Mainline Cost Allocation of Circuit-A4]

$= [\{(M_{A1}/N_{A1}) + (A_{A1}/E_{A1})\} * M\$_{A1}] + [\{(M_{A2}/N_{A2}) + (A_{A2}/E_{A2})\} * M\$_{A2}]$
$+[\{(M_{A3}/N_{A3}) + (A_{A3}/E_{A3})\} * M\$_{A3}] + [\{(M_{A4}/N_{A4}) + (A_{A4}/E_{A4})\} * M\$_{A4}]$

= [{(30/365) + (10/500)}* ($250,000)] + [{(30/365) + (10/500)}* ($250,000)]
+ [{(30/365) + (10/500)}* ($250,000)] + [{(30/365) + (10/500)}* ($250,000)]

= $25,548 + $25,548 + $25,548 + $25,548

= $102,192

The Required Customer Tap Cost Allocation
= 100% * [Sum of Customer Tap Costs for Circuit-A1, Circuit-A2, Circuit-A3 and Circuit-A4]
= 100% * $[T\$_{A1} + T\$_{A2} + T\$_{A3} + T\$_{A4}]$
= 100% * [$0 + $0 + $0 + $0] = $0

Accordingly,
the Required System Cost Allocation = Required Mainline System Cost Allocation
+ Required Customer Tap Cost Allocation = $102,192 +$0 = $102,192

DISTRIBUTION PRICING DIRECTIVE

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Customer Requests that Require ComEd to Reserve Distribution System Capacity

Reserved Distribution System Capacity Charge

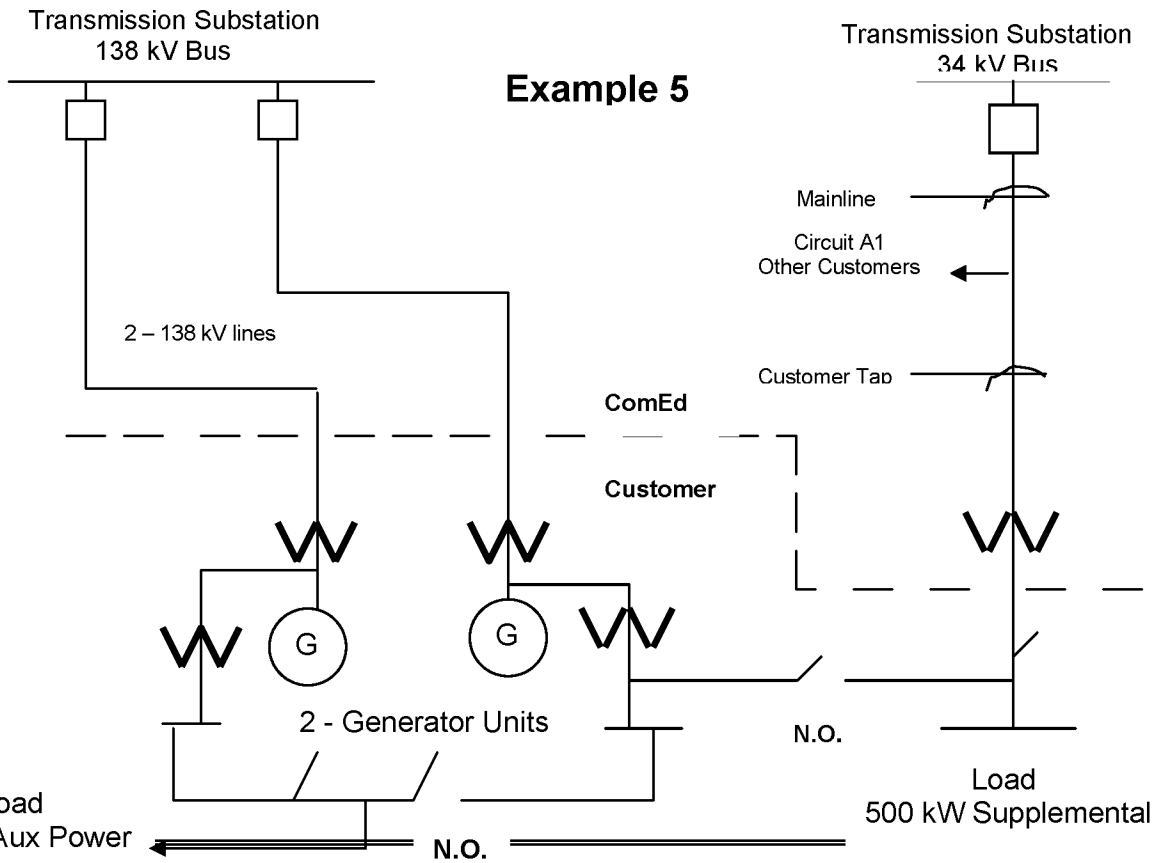
The Reserved Distribution System Capacity Charge is the difference in cost between the customer's Required System Cost Allocation and the Standard System Cost Allocation (multiplied by either (1) the currently-effective PVCC for nonrefundable prepaid rental or (2) the currently-effective MLPCC for monthly rental).

Consequently,
the Reserved Distribution System Capacity Charge = (Required System Cost Allocation - Standard System Cost Allocation) × PVCC (non-refundable prepaid rental) or x MLPCC (for monthly rental):

$102,192 - $82,192 = **$20,000**
$20,000 * 1.32817 = **$26,563 (nonrefundable prepaid rental)**
or $20,000 * 0.00958 = **$192 (monthly rental)**

Example 5

An Independent Power Producer (IPP) operating 2 – generators requests service from the 34 kV system for 500 kW of supplemental service (lighting, HVAC general service etc.) and 1 MW of standby for auxiliary station service load (oil heaters, turning gears, miscellaneous motors etc.) in the event service from the normal 138 kV interconnection is out for maintenance. The standard distribution supply system consists of one 34 kV line (Circuit A1) from a TSS to serve the 500 kW of supplemental load. Two 138 kV lines connect the two generators to ComEd's grid.



DISTRIBUTION PRICING DIRECTIVE

D P D: Rider 6, No. 5

Customer Requests that Require ComEd to Reserve Distribution System Capacity

The necessary information is as follows:

N_{A1} = Normal Allowable Rating of 34 kV Circuit-A1.....595 Amps
M_{A1} = Customer's Maximum Demand normally served by Circuit-A1..... ....9 Amps
A_{A1} = 30-minute demand transferred to Circuit-A1.....18 Amps
$M\$_{A1}$ = Cost of Circuit-A1 Mainline.....$400,000
$T\$_{A1}$ = Cost of Circuit-A1 Customer Tap.....$30,000
PVCC = Present Value of Carrying Charge Factor (see note)..... .....1.32817
MLPCC = Monthly Level Premium Carrying Charge Factor (see note).....0.00958

Note: All costs determined using unit costs for typical line construction used in the vicinity of the substations involved and the location where service is requested. Installed cost of circuit breakers / reclosers at the substations for the circuits involved is included. Contact Financial Planning and Analysis for current PVCC and MLPCC factors.

Reserved Distribution System Capacity Charge Calculation
Calculation of the Reserved Distribution System Capacity Charge consists of calculating the Standard System Cost Allocation and the Required System Cost Allocation and then subtracting the Standard System Cost Allocation from the Required System Cost Allocation. The result is then multiplied by either (1) the currently-effective PVCC (to determine the applicable nonrefundable prepaid rental) or (2) the currently-effective MLPCC (to determine the applicable monthly rental). The calculation for this example is described below.

Note that in this example, maintenance on generators and associated equipment typically lasts for weeks. Therefore it is appropriate to use the normal capability of Circuit A1 rather than the emergency capability in determining the Reserved Distribution System Capacity Charge.

Standard System Cost Allocation
The customer's prorated portion of the standard distribution supply system consists of the customer's prorated portion of the Standard Mainline System plus 100% of the Standard Customer Tap, where, in this case Circuit-A1, is standard for a prorated portion of the customer's normal (supplemental) load :

The Standard Mainline System Cost Allocation = [Standard Mainline Cost Allocation of Circuit-A1]
= $[(M_{A1}/N_{A1}) * M\$_{A1}]$
= [(9/595) * ($400,000)] = $6,050

Standard Customer Tap Cost Allocation
= 100% * [Sum of Customer Tap Costs for Circuit-A1 and Circuit-A2]
= 100% * $[T\$_{A1}]$ = 100% * [$30,000] = $30,000

Accordingly,
the Standard System Cost Allocation = Standard Mainline System Cost Allocation
+ Standard Customer Tap Cost Allocation = $6,050 + $30,000 = $36,050

Required System Cost Allocation
The customer's prorated portion of the required distribution supply system consists of the customer's prorated portion of the Required Mainline System plus 100% of the Required Customer Tap, where, in this case Circuit-A1, is required to serve a total supplemental and standby load of 1500 kW (9 Amps supplemental + 18 Amps standby):

The Required Mainline System Cost Allocation
= [Required Mainline Cost Allocation of Circuit-A1
= $\{(M_{A1}/N_{A1}) + (A_{A1}/N_{A1})\} * M\$_{A1}$
= {(9/595) + (18/595)}* ($400,000)
= $18,151

The Required Customer Tap Cost Allocation
= 100% * [Customer Tap Costs for Circuit-A1]
= 100% * [$T\$_{A1}$]
= 100% * [$30,000] = $30,000

Accordingly,
the Required System Cost Allocation = Required Mainline System Cost Allocation
+ Required Customer Tap Cost Allocation = $18,151 + $30,000 = $48,151

Reserved Distribution System Capacity Charge
The Reserved Distribution System Capacity Charge is the difference in cost between the customer's Required System Cost Allocation and the Standard System Cost Allocation (multiplied by either (1) the currently-effective PVCC for nonrefundable prepaid rental or (2) the currently-effective MLPCC for monthly rental).

Consequently,
the Reserved Distribution System Capacity Charge = (Required System Cost Allocation
- Standard System Cost Allocation) × PVCC (non-refundable prepaid rental) or x MLPCC (for monthly rental):
$48,151 - $36,050 = **$12,101**
$12,101 * 1.32817 = **$16,072 (nonrefundable prepaid rental)**
or $12,101* 0.00958 = $116 **(monthly rental)**

Example 6
A customer in an underground area requests ATO service. Based on the customer's Maximum Demand, the customer's standard distribution supply system consists of two circuits from Substation-A (Circuits-A1 & A2) to manual switchgear with one normally closed line bay and one normally open line bay. To satisfy the customer's request, the use of an ATO and a different circuit from Substation-B (Circuit-B) is required, in place of the manual switchgear and Circuit-A2. The ATO will consist of one normally closed line bay connected to Circuit-A1, one normally opened line bay connected to Circuit-B as illustrated below.

DISTRIBUTION PRICING DIRECTIVE

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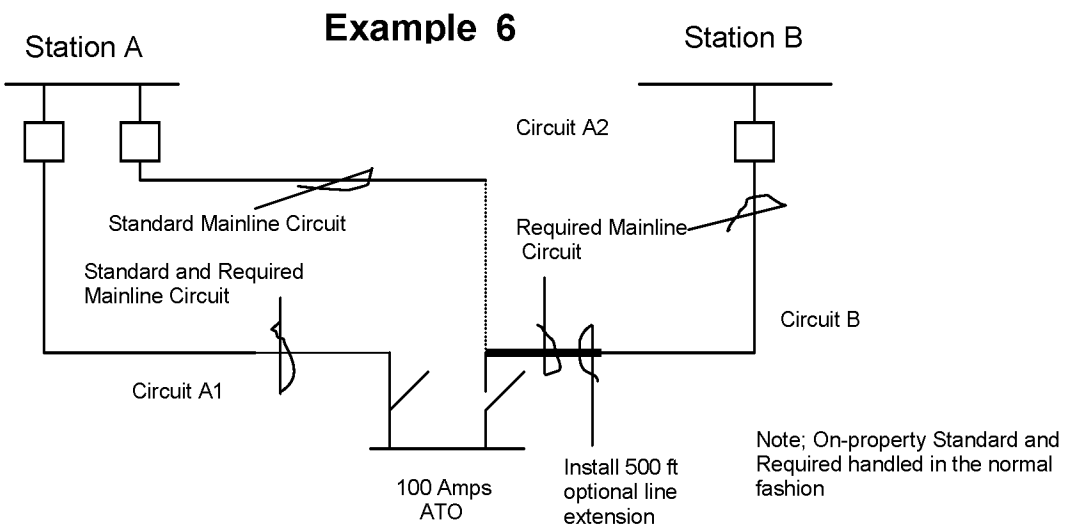
Customer Requests that Require ComEd to Reserve Distribution System Capacity

Example 6 continued

In this case, the Reserved Distribution System Capacity Charge (RDSCC) involves the same line/feeder for which an optional facilities line extension charge applies (to be paid as a one-time non-refundable payment per Rate Memorandum Rider 6 Section VI (c)). The RDSCC will be credited for the amount collected under optional facilities line extension up to the total amount of the Reserved Distribution System Capacity Charge for the line segment that is common in both the Reserved Distribution System Capacity Charge and optional line extension charge calculations.

In order to provide the required distribution system capacity reservation required by the customer's request, the calculation of the RDSCC will include consideration of such optional facilities line extension charge as follows.



DISTRIBUTION PRICING DIRECTIVE

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Customer Requests that Require ComEd to Reserve Distribution System Capacity

The necessary information is as follows:

N_{A1} = Normal Allowable Rating of Circuit-A1 ..... 365 Amps
N_{A2} = Normal Allowable Rating of Circuit-A2 ..... 365 Amps
N_B = Normal Allowable Rating of Circuit-B ..... 365 Amps
M_{A1} = Customer's Maximum Demand normally served by Circuit-A1..... ..... 100 Amps
M_{A2} = Customer's Maximum Demand normally served by Circuit-A2..... .....0 Amps
M_B = Customer's Maximum Demand normally served by Circuit-B..... .....0 Amps
A_{A1} = 30-minute demand transferred to Circuit-A1.....0 Amps
A_B = 30-minute demand transferred to Circuit-B..... 100 Amps
E_{A1} = Emergency Allowable Rating of Circuit-A1 ..... 470 Amps
E_B = Emergency Allowable Rating of Circuit-B ..... 470 Amps
$M\$_{A1}$ = Cost of Circuit-A1 Mainline.....$150,000
$M\$_{A2}$ = Cost of Circuit-A2 Mainline.....$170,000
$M\$_B$ = Cost of Circuit-B Mainline.....$200,000
$T\$_{A1}$ = Cost of Circuit-A1 Customer Tap $0
$T\$_{A2}$ = Cost of Circuit-A2 Customer Tap $0
$T\$_B$ = Cost of Circuit-B Customer Tap.....$0
PVCC = Present Value of Carrying Charge Factor (see note)..... .....1.32817
MLPCC = Monthly Level Premium Carrying Charge Factor (see note).....0.00958

Note: All costs determined using unit costs for typical line construction used in the vicinity of the substations involved and the location where service is requested. Installed cost of circuit breakers / reclosers at the substations for the circuits involved is included. Contact Financial Planning and Analysis for current PVCC and MLPCC factors.

Reserved Distribution System Capacity Charge Calculation
Calculation of the Reserved Distribution System Capacity Charge consists of calculating the Standard System Cost Allocation and the Required System Cost Allocation and then subtracting the Standard System Cost Allocation from the Required System Cost Allocation. The result is then multiplied by either (1) the currently-effective PVCC (to determine the applicable nonrefundable prepaid rental) or (2) the currently-effective MLPCC (to determine the applicable monthly rental). The calculation for this example is described below.

Note in this example, a credit is given for the amount of the optional facilities line extension of Circuit B that applies to the section of line which is also part of the Reserved Distribution System Capacity Charge (RDSCC). The maximum amount of such credit is the RDSCC that applies to such line segment.

DISTRIBUTION PRICING DIRECTIVE

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Customer Requests that Require ComEd to Reserve Distribution System Capacity

Standard System Cost Allocation

The customer's prorated portion of the standard distribution supply system consists of the customer's prorated portion of the Standard Mainline System. In this case, Circuits-A1 and A2, are standard for the customer's normal load:

The Standard Mainline System Cost Allocation = [Standard Mainline Cost Allocation of Circuit-A1]
+ [Standard Mainline Cost Allocation of Circuit-A2] = [(M_{A1}/N_{A1}) * $M\$_{A1}$] + [$(M_{A2}/N_{A2})$ * $M\$_{A2}$]
= [(100/365) * ($150,000)] + [(0/365) * ($170,000)] = $41,095 + $0 = $41,095

Standard Customer Tap Cost Allocation = 100% * [Customer Tap Cost of Circuit-A1
+ Customer Tap Cost of Circuit-A2] = 100% * [$T\$_{A1}$ + $T\$_{A2}$] =100% * [$0] = $0

Accordingly, the Standard System Cost Allocation = Standard Mainline System Cost Allocation
+ Standard Customer Tap Cost Allocation = $41,095 = $41,095

Required System Cost Allocation

The customer's prorated portion of the required distribution supply system consists of the customer's prorated portion of the Required Mainline System plus 100% of the Required Customer Tap, where, in this case Circuit-A1 and Circuit-B are required:

The Required Mainline System Cost Allocation = [Required Mainline Cost Allocation of Circuit-A1]
+ Required Mainline Cost Allocation of Circuit-B] = [{(M_{A1}/N_{A1}) + (A_{A1}/E_{A1})} * $M\$_{A1}$] + [{$(M_B/N_B)$
+ (A_B/E_B)} * $M\$_B$] = [{(100/365)+ (0/470)} * ($150,000)] + [{(0/365) + (100/470)}* ($200,000)]
= $41,095+ $42,553= $83,648

The Required Customer Tap Cost Allocation = 100% * [Customer Tap Cost of Circuit-A1
+ Customer Tap Cost of Circuit-B] = 100% * [$T\$_{A1}$ + $T\$_B$] = 100% * [$0] = $0

Accordingly, the Required System Cost Allocation = Required Mainline System Cost Allocation
+ Required Customer Tap Cost Allocation = $83,648 + $0 = $83,648

Credit for Optional Line Extension Charge

The optional facilities line extension is 500 ft of a total mainline (Line B) equal to 5000 ft. as measured from the point of connection of the customer load back through the circuit breaker at the ComEd TSS or TDC, therefore:

In this example, the portion of the Required Mainline Cost Allocation of Circuit B that is also subject to the optional facilities line extension charge is:

= 500/5000 * $42,553 = $4255 where:
$42,553 = [{$(M_B/N_B)$ + (A_B/E_B)} * $M\$_B$] from above formula

DISTRIBUTION PRICING DIRECTIVE

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Customer Requests that Require ComEd to Reserve Distribution System Capacity

The Optional Facilities Line Extension cost is:

= ($200,000/5000 ft) X 500 ft = $20,000
for the common line segment.

This exceeds the portion of the Required Mainline Cost Allocation of Circuit B for the same line segment. Therefore, credit the RDSCC with $4,255.

Reserved Distribution System Capacity Charge
The Reserved Distribution System Capacity Charge is the difference in cost between the customer's Required System Cost Allocation and the Standard System Cost Allocation less any credit for the optional line extension charge (multiplied by either (1) the currently-effective PVCC for nonrefundable prepaid rental or (2) the currently-effective MLPCC for monthly rental).

Consequently,
The Reserved Distribution System Capacity Charge = (Required System Cost Allocation
- Standard System Cost Allocation – Credit for Optional Line Extension Charge) × PVCC (nonrefundable prepaid rental) or x MLPCC (for monthly rental):

$83, 648 - $41,095 - $4,255= $38,298
$38,298 * 1.32817 = **$50,866 (nonrefundable prepaid rental)**
or $38,298 * 0.00958 **= $367 (monthly rental)**